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ABSTRACT OF THE DISCLOSURE

A mobile client device, such as a wireless mobile or a palm sized personal digital assistant, is provided with a number of sensors and companion programming instructions/circuitry to generate a heart rate reading for a user holding the device. The sensors are used to sense blood flow rate of the user. The sensors are advantageously disposed in a distributed manner, in a number of locations of the mobile client device. The programming instructions/circuitry are used to infer a holding pattern of the device, and generate the heart rate reading, using a subset of the sensed data, based at least in part on the inferred holding pattern.